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59TH MEDICAL WING (AETC)  
JOINT BASE SAN ANTONIO - LACKLAND TEXAS

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MEMORANDUM FOR SGOT

ATTN: COL MARK W. TRUE

FROM: 59 MDW/SGVU

SUBJECT: Professional Presentation Approval

1. Your paper, entitled Leadership Training in Endocrinology Fellowship? A Survey of Program Directors and Recent Graduates presented at Endocrine Society Annual Meeting, Florida, 1-4 April 2017 in accordance with MDWI 41-108, has been approved and assigned local file #16392.
2. Pertinent biographic information (name of author(s), title, etc.) has been entered into our computer file. Please advise us (by phone or mail) that your presentation was given. At that time, we will need the date (month, day and year) along with the location of your presentation. It is important to update this information so that we can provide quality support for you, your department, and the Medical Center commander. This information is used to document the scholarly activities of our professional staff and students, which is an essential component of Wilford Hall Ambulatory Surgical Center (WHASC) internship and residency programs.
3. Please know that if you are a Graduate Health Sciences Education student and your department has told you they cannot fund your publication, the 59th Clinical Research Division may pay for your basic journal publishing charges (to include costs for tables and black and white photos). We cannot pay for reprints. If you are 59 MDW staff member, we can forward your request for funds to the designated wing POC.
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LINDA STEEL-GOODWIN, Col, USAF, BSC  
Director, Clinical Investigations & Research Support

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1. TO: CLINICAL RESEARCH	2. FROM: (Author's Name, Rank, Grade, Office Symbol) Mark W. True, Col, O-6, 959 MDOS/SGOT	3. GME/GHSE STUDENT:	4. PROTOCOL NUMBER: <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO N/A																								
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**Leadership Training in Endocrinology Fellowship?**  
**A Survey of Program Directors and Recent Graduates**

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## **Leadership Training in Endocrinology Fellowship? A Survey of Program Directors and Recent Graduates**

### **Abstract**

**Context:** There is growing recognition that more physician leaders are needed to navigate the next era of medicine.

**Objective:** To determine current opinions about leadership training in endocrinology fellowship programs.

**Design/Participants:** 27-question survey addressing various aspects of leadership training to current nationwide fellowship program directors (PDs) and fellowship graduates since 2010.

**Intervention:** In partnership with the Endocrine Society, the electronic survey was advertised primarily via direct e-mail. It was open from March through July 2016.

**Main Outcome Measure(s):** The survey addressed leadership traits, importance of leadership training, preferred timing and content of leadership training.

**Results:** 46 of 138 PDs (33.3%) and 147 of 1769 graduates (8.3%) completed the survey. Among PDs and graduates, there was strong agreement (>95%) about important leadership characteristics, including job knowledge, character traits, team-builder focus, and professional skills. PDs (64.5%) and graduates (60.8%) favored teaching leadership skills during fellowship, with PDs favoring mentoring/coaching (75.0%), direct observation of staff clinicians (72.5%), and seminars (72.5%). Graduates favored a variety of approaches. Regarding topics to include in a leadership curriculum, PDs responded that communication skills (97.5%), team building (95.0%), professional skills (90.0%), clinic management (87.5%), strategies to impact the delivery of endocrinology care (85.0%), and personality skills (82.5%) were most important.

Graduates responded similarly, with >80% agreement for each topic. Finally, most PDs (89%) expressed a desire to incorporate more leadership training into their programs.

**Conclusions:** Our survey suggests a need for leadership training in endocrinology fellowships. More work is needed to determine how best to meet this need.

## **Leadership Training in Endocrinology Fellowship? A Survey of Program Directors and Recent Graduates**

### **Introduction**

There is growing recognition that more physician leaders are needed to navigate the next era of medicine. Multiple organizations, to include American College of Physicians (ACP), American Association of Physician Leadership (AAPL), and Alliance for Academic Internal Medicine (AAIM), are offering more training opportunities for those interested in leadership (1-3), but those who attend are typically poised for or already in traditional leadership positions. Due to the increasingly complex healthcare environment, many are advocating for broader exposure to leadership concepts for all physicians throughout the spectrum of physician training, beginning as early as medical school. (4) However, in an examination of the medical literature, there appears to be only a handful of medical schools and graduate medical education programs that have begun leadership training programs for their students. (5-8)

Within our subspecialty, there is a current and projected shortage of endocrinologists nationwide. (9) This shortage is compounded with the rise in incidence in diabetes, obesity, osteoporosis, and other common endocrine diseases. (10-12) One approach to this predicament is to consider expanding the role of an endocrinologist beyond the purely clinical realm and into the broader role of a leader. Within a clinic, this could involve leading a team to include mid-level providers in addition to traditional support staff. In a broader sense within a healthcare system or a region, this could mean being a driver of best practices among those who manage routine endocrine disorders. In the United States Air Force's endocrinology fellowship program in San Antonio, we recognized the need for leadership training for fellows due to the nature of assignments for

our graduates. Oftentimes, they must function as solo endocrinologists at major medical centers immediately upon graduation from fellowship. In addition to needing to know how to manage a clinic and ancillary staff, they have to function as practice guideline champions of several major endocrinology diseases (diabetes, osteoporosis, common thyroid disorders) in which the majority of patients are managed at the primary care level. We found that if we only focused on meeting Accreditation Council for Graduate Medical Education (ACGME) requirements and passing the board certification examination, we would not be adequately preparing our fellows for many of the tasks they would be facing. Therefore, we started incorporating a 4-week leadership block in our curriculum, and we began to adapt activities throughout the fellowship to develop leadership qualities. Acknowledging that the Military Health System is unique in that all of its fellowship graduates continue to work within our system, we sought to understand how nationwide program directors and recent graduates perceived leadership training. Thus, the aim of this survey was to assess current opinions regarding incorporating leadership training into endocrinology fellowship curricula.

## **Methods**

Our team at San Antonio Military Medical Center developed the 27-question Leadership Training Survey. Endocrine Society staff members and several committee members reviewed the survey for content and made suggestions for improvement. The survey consisted of questions addressing several broad categories: fellowship demographics, problems encountering the field of endocrinology, ideal leadership traits, leadership skills needed by endocrinologists, preferred timing of leadership training, previous leadership training experiences, preferred content of leadership training, and desire for leadership training tools. Endocrine Society staff

members converted the survey to electronic format and distributed it via e-mail to current endocrinology fellowship program directors and fellowship graduates since 2010. The Endocrine Society sent the initial e-mail invitation in March 2016, and made several follow-up e-mail invitation attempts over the following month. The Association of Program Directors of Endocrinology and Metabolism (APDEM) advertised the project at its annual meeting in April 2016, and the APDEM president and Endocrine Society's Clinical Endocrine Education Committee chair sent a follow-up e-mail encouraging participation in the survey. Additionally, an ENDO TV interview at ENDO 2016 was broadcast at the conference and on YouTube and provided background information about the survey. (13) The survey closed in July 2016. The Endocrine Society staff collected the survey responses and forwarded the data to our team for analysis.

This study was primarily a descriptive study to assess perceived attitudes toward leadership training for endocrinology fellows. The data were analyzed using SPSS version 19. Frequencies for all questions were conducted. There were less than 10% missing data. Primarily, program director responses were compared and contrasted with the recent endocrinology graduate responses. Data were analyzed to determine where concordance and discordance were observed.

## Results

Of the national fellowship program directors, 46 out of 138 completed the survey for a response rate of 33.3%. Of recent graduates, 147 out of 1769 responded for an 8.3% response rate. Among the graduates who responded, most were working as faculty members in an academic

center (39.6%), non-academic hospital systems (20.8%), or in private practice (20.8%). Most of the graduates who responded graduated either in 2014 (25.2%) or 2015 (34.8%).

Program directors and recent graduates responded similarly about the demographics of their fellowship programs. The majority of respondents described that most programs had one or two fellows in each year group (67.4%), served one or two hospital systems (76.1%) with the majority of referrals coming from general internists (59.0%). Referred patients are typically seen within one month (67.0%) in the majority of programs. Fellows in most programs work regularly with mid-level providers (65.2%).

### **Traits and Roles of Effective Physician Leaders**

As seen in Figure 1, all program directors (54.5% strongly agree; 45.5% agree) agreed that knowledge of the job (knowledge about regulations, technology, budget/finance, and personnel system) was an important characteristic of effective physician leaders. Furthermore, 97.8% of program directors (80% strongly agree; 17.8% agree) agreed personal character traits (integrity, honesty, courage, charisma, motivation, creativity, innovation, flexibility, balance of confidence/humility, emotional intelligence, commitment, etc.) were traits of an effective physician leader. In addition, having a team builder focus (others-focused, empowerer, developer of subordinates, mentor, coach, delegator, cultural/interpersonal sensitivity) was agreed to be important by 95.6% (75.6% strongly agree; 20.0% agree); and professional skills (organization, multitasking, planning, communication, decision-making, time management) were of primary importance to 95.3% (68.2% strongly agree; 27.3% agree) of program directors. Recent graduates responded similarly concerning knowledge of the job, character traits, and professional

skills. However, 94.5% of recent graduates agreed that expertise in the specialty was a trait of an effective physician leader as compared to 86.7% of program directors.

When asked about the importance of leadership skills, both program directors and graduates overwhelmingly agreed that leadership skills are as important as clinical skills. However, graduates felt more strongly about this as 81.1% of graduates thought leadership was as important as clinical skills, compared to 59.6% of program directors. Furthermore, 38.5% of program directors thought leadership skills were less important than clinic skills, and only 3.5% thought leadership was not important.

When asked about the importance of leadership training for various types of endocrinologists, program directors were in strong agreement that endocrinologists in traditional leadership positions, such as a division chief or department chair, needed formal training (Figure 2). Moreover, leadership training was seen as important for endocrinologists in primarily academic positions, and academicians who had a combination of other duties (clinical and research). While recent graduates had similar responses to program directors, 79% felt leadership training was important for practitioners in a group (Figure 2). In addition, 66.3% of graduates believed leadership training was important for all endocrinologists, regardless of their practice, compared to less than half of program directors (48.9%) with many of them responding neutral on this topic (44.4%). It must be noted that about one third of graduates and program directors were neutral concerning leadership training for independent investigators, solo practitioners, and research endocrinologists.

## **Current Processes of Leadership Training**

Despite acknowledgement that leadership principles are important for endocrinologists, most fellowship programs do not have a structured leadership curriculum. Leadership training in current fellowships was primarily accomplished incidentally through direct observation of clinical staff (Figure 3). Others learned through self-directed means or through an organized mentoring program. Graduates reflected that direct observation of their staff and self-directed means of leadership training were beneficial; 41.0% reported that their experience in fellowship helped them prepare for the challenges of their current jobs. However, nearly as many graduates (34.2%) did not feel that their fellowship training adequately prepared them for a leadership role. Recognizing this, 89% of program directors (51.3% strongly agree, 38.5% agree) confirmed that they would like to incorporate more leadership training into their curricula.

## **When and How Leadership Should be Taught**

Figure 4 (top) shows the responses about the preferred timing of leadership training. Of note, the majority (64.5%) of program directors were in favor of teaching leadership skills during endocrinology fellowship. Furthermore, a majority of recent graduates favored teaching leadership during medical school (60.8%), residency (58.1%), and in an endocrinology fellowship (60.8%). Only 16.1% of program directors and 10.8% graduates responded that it was appropriate only for those interested. Consistent with these results, most (program directors [53.7%] and recent graduates [58.3%]) also strongly agreed or agreed that ACGME Development Milestones should be expanded to include a larger leadership focus (Figure 4 bottom).

As shown in Figure 5, about three-quarters of program directors agreed that leadership skills should be taught through mentoring or coaching (75.0%), direct observation of staff clinicians (72.5%), and leadership seminars (72.5%). It must also be noted that nearly one third of responses from program directors were neutral concerning ways to teach leadership skills. Only 33.3% of program directors believed a formal rotation with hospital administrators was useful; however, 67.5% of graduates favored this approach. Recent graduates largely favored a variety of approaches to teaching leadership skills. In fact, no approach had less than 60% agreement from graduates. The most popular were similar to those favored by the program directors: mentoring or coaching (94.1%), direct observation of staff clinicians (91.4%), and leadership seminars (81.5%).

Furthermore, there was agreement about topics that should be emphasized in leadership training (Figure 6). Communication (97.5%) and team building (95.0%) were topics with the strongest mandate. The vast majority also favored professional skills (90.0%), clinic management (87.5%), strategies to lead/impact the delivery of endocrinology care within the larger health system (85.0%), and personality skills (82.5%). For recent graduates, more than 80% agreement was observed for each topic of leadership training with the exception of laboratory management.

Finally, program directors indicated a strong interest in incorporating more leadership training into their programs (agree 89%, neutral 9%, disagree 2%), and 96% of them indicated that it would be helpful if the Endocrine Society developed leadership curriculum tools specific to the needs of the field.

## **Discussion**

Based on survey responses from program directors and recent endocrinology fellowship graduates, leadership is an important skill to the practice of endocrinology. Intuitively, those in traditional leadership roles, such as department chairs, are expected to have been exposed to formal leadership training. However, respondents also believed that endocrinologists in an academic or combined position, roles that involve a larger breadth of interactions, should have leadership training. This comes as no surprise since role modeling appears to have been the traditional way that leadership has been taught, and most still favor this approach. Program directors and graduates clearly valued the means of learning leadership through interpersonal interactions with their clinical superiors or peers, whether it is through direct observation, mentoring, or informal discussions. However, many graduates who responded to this survey did not feel adequately prepared to face some of the leadership challenges beyond their fellowship training. Although one must acknowledge that fellows in training do not necessarily know which direction their careers will take, there seems to be a gap in modern curricula that would better prepare graduates to function as truly independent endocrinologists. Accordingly, both program directors and graduates agreed that including more leadership training in their curricula, perhaps with a more structured approach, would enhance clinical training.

While many of the respondents identified administrative management skills as one of the desired learning points in a leadership course, many more desired to learn about less tangible aspects of leadership, such as professionalism and communication. In this endeavor, most still favored the means of learning through direct observation or mentoring. However, there was recognition among respondents that there should be other sources from which to learn these leadership skills.

Compared to what is currently offered in fellowship curricula, respondents identified other desirable sources of leadership training, such as formal leadership workshops, discussions on lessons learned from leadership cases, and presentations from local institutional or community leaders.

Although there appears to be common acknowledgment in our survey that leadership is an important topic, it is important to note that training in leadership principles is not a requirement in the current model of physician education in the United States. The ACGME Core Competencies (Medical Knowledge, Patient Care, Professionalism, Interpersonal and Communication Skills, System-Based Practice, and Practice-Based Learning and Improvement) are primarily focused on ensuring that physician graduates have strong clinical skills, appropriate for independent medical practice. (14) Some of the Residency Review Committees (RRCs) have adopted milestones that address leadership skills. For example, the Emergency Medicine RRC has a sub-competency within the ACGME Core Competency of Interpersonal and Communication Skills entitled Team Management: Leads patient-centered care teams, ensuring effective communication and mutual respect among members of the team. (15) However, with few exceptions, the majority of RRC sub-competencies, including those in internal medicine and its subspecialties, do not have an explicit leadership expectation for a “Ready for unsupervised practice” rating. Rather, leadership within a sub-competency, if mentioned, is typically only an Aspirational rating, above and beyond what is required. (16,17) One could argue that we have a lack of leadership emphasis in our training programs because we are not required to have this emphasis. Understandably, physician training programs in the United States tend to reflect the requirements that are placed upon them. Most survey respondents (program directors [53.7%]

and recent graduates [58.3%]) stated that ACGME should adapt its model to include a stronger emphasis on leadership skills.

In contrast, Canada's Royal College of Physicians and Surgeons core competency model (CanMEDS) emphasizes a Leader role. The CanMEDS Framework states: "As Leaders, physicians engage with others to contribute to a vision of a high-quality health care system and take responsibility for the delivery of excellent patient care through their activities as clinicians, administrators, scholars, or teachers." (18) Since 2014, the University of Toronto has hosted the Toronto International Summit on Leadership Education for Physicians. One of its most important guiding principles is "All physicians are expected to be leaders within their clinical practice environment." (19) Ongoing efforts are underway to formalize a leadership curriculum that will meet the goals of the CanMEDS model. The most recent meeting devoted a discussion about the incorporation of the Canadian national LEADS Framework (Lead Self, Engage Others, Achieve Results, Develop Coalitions, and Systems Transformation) into residency curriculum. (20, 21)

There are some examples within the United States of leadership training adaptations in medical education. Our fellowship program, which trains Air Force officers, has incorporated many of the above mentioned methods of teaching leadership and leadership skills in our annual 4-week leadership block as well as throughout the entire training program. During the 4-week leadership block, staff and fellows review a book on leadership with weekly discussions about how leadership skills are applied and how these principles pertain to current and future clinical/academic settings. Throughout the academic year, we include fellows in leadership

discussions ranging from local business issues (including clinic personnel/equipment resources and overall clinical productivity metrics) to larger Air Force Medical Service concerns (including management strategies for regional consults and future manning requirements). We also place fellows into actual leadership roles, especially in the area of impacting health care delivery. For example, our senior fellow serves as a course director and our junior fellows serve as instructors for a biannual conference educating US military medical teams worldwide on evidence-based diabetes care. Additionally, they regularly provide video-teleconference presentations on various diabetes topics to military bases worldwide who would otherwise lack access to formal diabetes education. In this effort, they are able to introduce themselves to a national audience, they gain an awareness of the challenges in healthcare delivery throughout the Military Health System, and they learn how to extend themselves to improve endocrine care outside of their own institutions. This ability to step into a leadership role early helps to provide opportunity for team building, communication, and strategies to lead health care delivery on a larger scale with the guidance of experienced mentors.

Our nation's military medical school, the Uniformed Services University, recognizes the value of introducing leadership fundamentals early in a physician's career. While the curriculum is designed for military medical officers, the skills, knowledge and attitudes are applicable to conventional clinical settings in which physicians are expected to anticipate and adapt to uncertainty, make ethical decisions based on the shared values of multiple individuals, and think critically and strategically to provide services in challenging situations. The Leadership Education and Development (LEAD) curriculum is based on the application of what it terms the 4 C's of leadership (Character, Competence, Context, and Communication) across the Personal,

Interpersonal, Team and Organizational (PITO) interactional domains. This program is provided to students through interactive plenary sessions, small group exercises, group discussions, and applied field exercises. Sessions include personality, emotional intelligence, effective communication, difficult conversations, team building, leadership assessment, and organization.

(5,22)

The Massachusetts General Hospital (MGH) has also incorporated a Leadership Development Course (LDC) into its internal medicine residency program to promote health care quality and cost control. Using a framework built upon a set of nine established best practices for designing effective leadership training interventions, the LDC was developed via collaboration with both faculty and internal medicine residents. (23) The goals of this course were to help residents develop basic leadership skills applicable to their clinical work, promote residents' personal and professional development, and build long-term interest in leadership and management. The course was given at the beginning of the residents' second year during an outpatient elective rotation, an important milestone in which physicians in training take on greater leadership responsibilities. The course was 4 weeks in length and consisted of weekly 2-3 hour large group sessions as well as weekly small group meetings. Discussions include business school-style case studies, videos about leadership, and role playing. Topics include: Introduction to clinical leadership and leadership styles, Authentic Leadership, Leading with emotional intelligence, and Leading clinical teams. Through an internal survey, 94% of residents agreed that they developed a better understanding of different leadership styles. A similar percentage agreed that they developed a better understanding of their strengths and weaknesses as leaders. Importantly, a

vast majority of residents felt that the course prepared them to face interpersonal challenges that arise with team members at all levels and non-physician colleagues. (8)

### **Limitations**

This survey data was collected from a convenience sample; there may be bias as to who chose to take the survey and who did not. It is plausible that only those interested in this topic participated, which would make responses favor the importance of leadership training. Those who did not consider leadership training to be a priority may have elected not to participate in the survey. Additionally, since program directors are in leadership positions, these individuals may have a bias that favors the training of leadership skills because they have chosen that direction in their own careers.

While the survey response rate of 33.3% for the program directors represents a reasonable sample, the overall graduate response rate was low at 8.3% and therefore may not be representative of how most graduates think about leadership training. The majority of graduate responses were from 2014 and 2015 (60%) so there is less input from previous graduates. It is important to note that the graduate responses were very similar to the program director responses, which reinforces the validity of their responses.

### **Future directions**

There are several unknowns remaining at this time that warrant further exploration and discussion. One potential concern is the amount of time required to devote to meaningful leadership training at the potential expense of traditional clinical training requirements. A second concern is the development of specific, observable leadership competencies that faculty members can objectively evaluate in trainees, particularly when faculty members themselves may be unfamiliar with basic leadership principles. Finally, uncertainty remains regarding the best design of a leadership curriculum such that it achieves broad applicability to different endocrine career fields, all the while spanning both tangible and intangible aspects of leadership. Further discussion with ACGME is needed to determine how leadership should fit into its current Core Competency and Milestone scheme. Without a standardized framework emphasizing leadership, the need for a path ahead is not universally understood or appreciated, and consequently not straightforward. Regardless, our survey indicates a need for such a pathway. The training programs described earlier have been able to introduce leadership concepts, laying down a basic expectation that its graduates will be expected to lead. This is a start. The work occurring in Canada may represent a resource in which we can emulate. Another area of discussion is how professional specialty organizations, like the Endocrine Society, can best participate to assist program directors in the development of tools for leadership training. This discussion is ongoing within our Society.

## **Conclusion**

Our survey of endocrinology fellowship program directors and recent graduates indicates a desire for increased leadership training in our fellowships. More work is needed to determine how best to meet this need.

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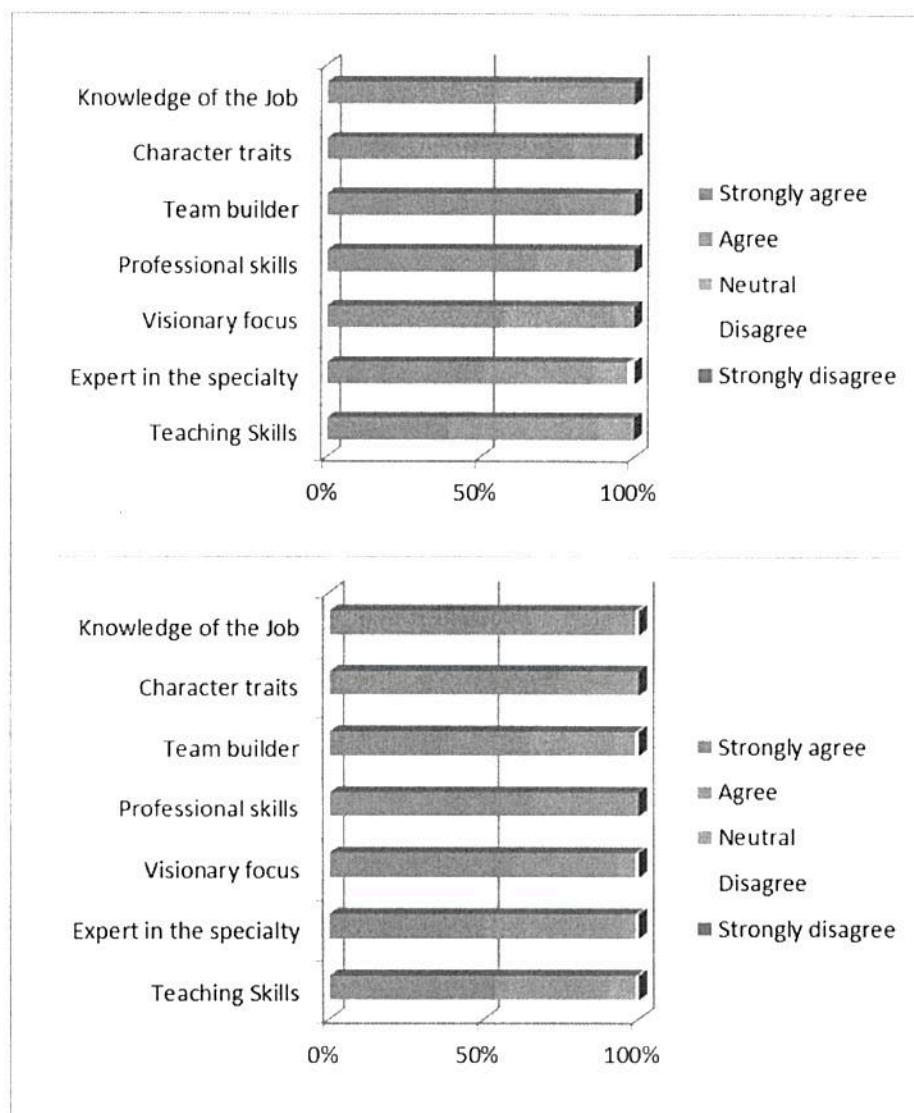
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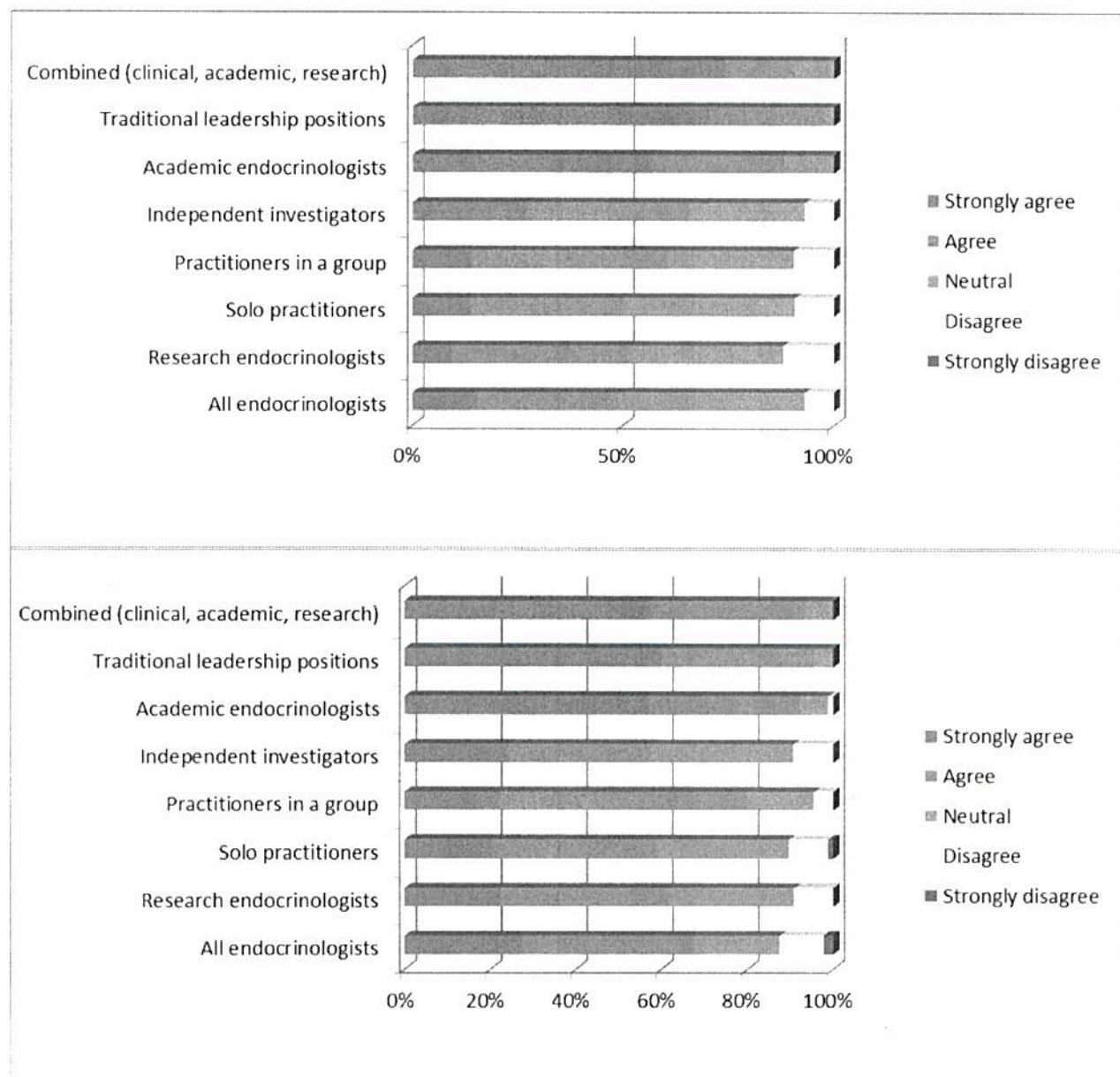
**Figure 1. Survey Question: In your opinion, the following characterize an effective physician leader:**

Program director responses are in the top graph; recent graduate responses are in the bottom graph.

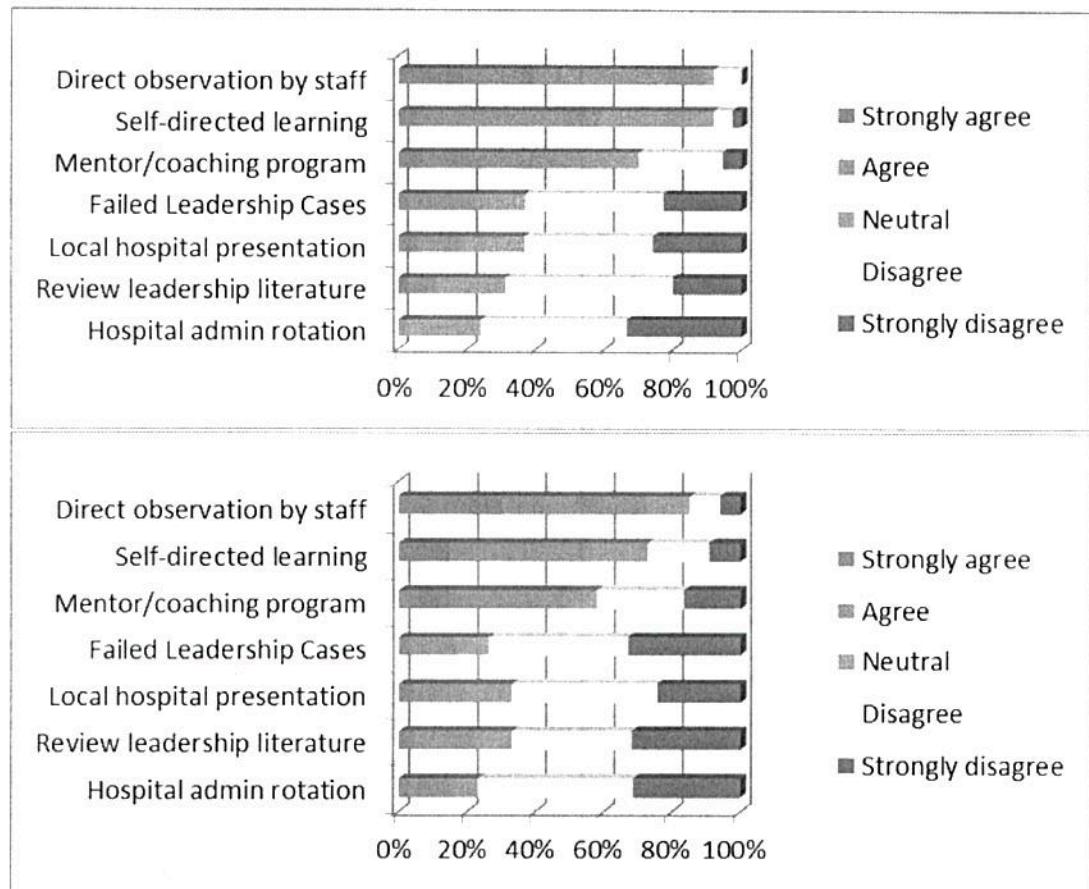


**Figure 2. Survey Question: Formal Leadership Training is Important for:**

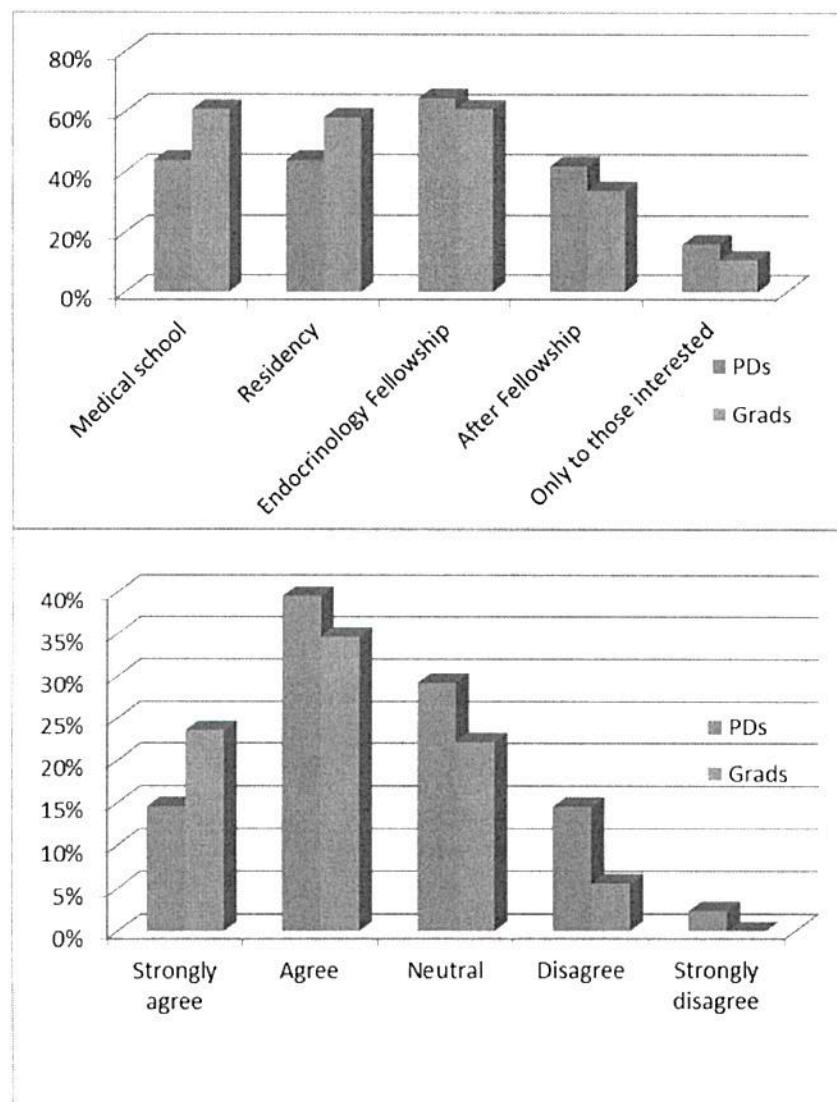
Program director responses are in the top graph; recent graduate responses are in the bottom graph.



**Figure 3. My Program Includes the Following Types of Leadership Training:**  
Program director responses are in the top graph; recent graduate responses are in the bottom graph.

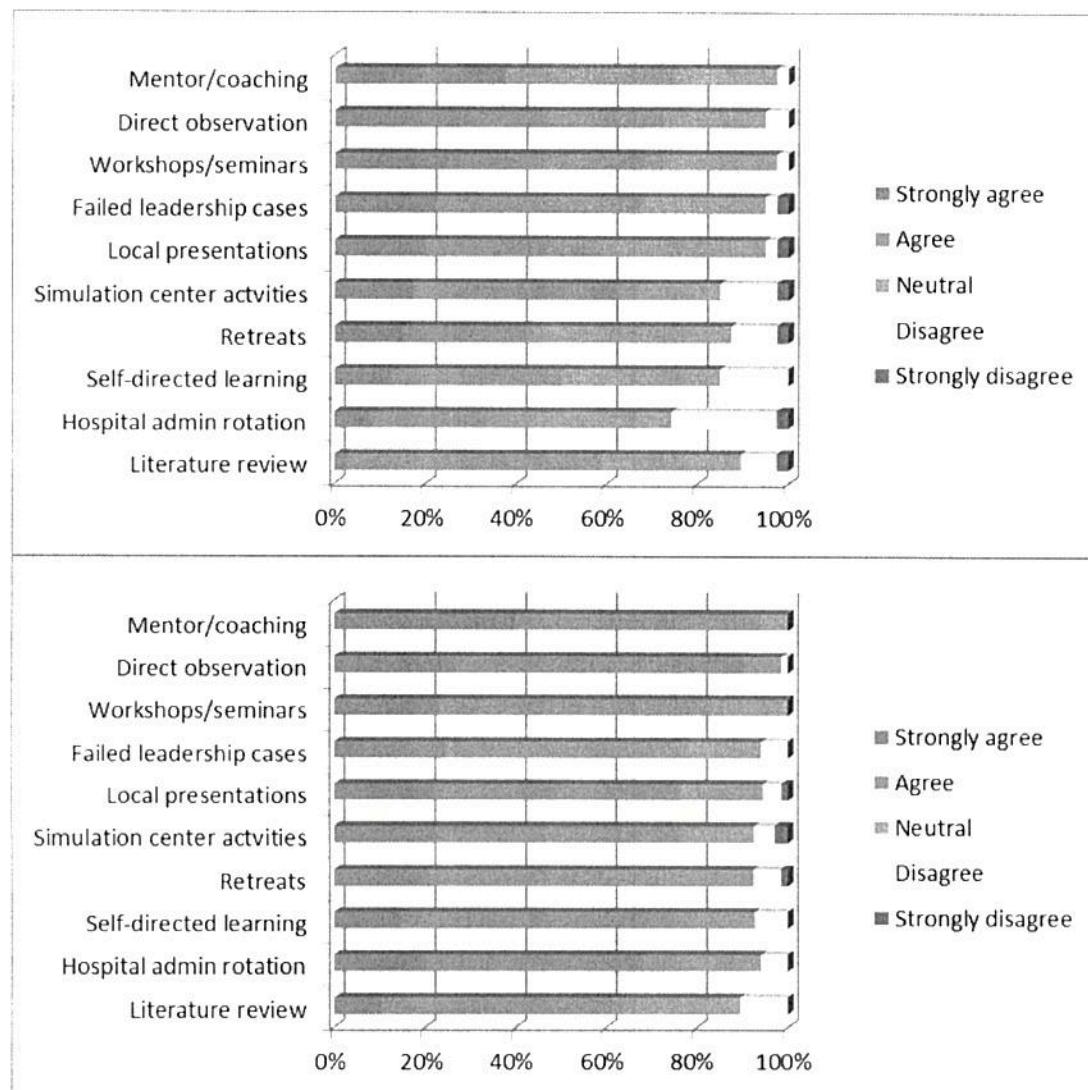


**Figure 4 Top: When should leadership skills be taught? (check all that apply)**  
**Bottom: ACGME development milestones should be expanded to include a larger leadership focus**



### **Figure 5. How Should Leadership Skills be Taught?**

Program director responses are in the top graph; recent graduate responses are in the bottom graph.



**Figure 6. Which of the Following Topics Would You Emphasize?**

Program director responses are in the top graph; recent graduate responses are in the bottom graph.

